

10/714,292

Attorney Docket No. 14542

**REMARKS****I. Claim Status.**

Claims 1 and 3-23 are pending in the application.

**II. The Rejections To The Specification.**

The Examiner has objected to the amendment filed October 4, 2004 under 35 USC §132(a) for the reasons stated in numbered paragraph 2 of the Office Action, as introducing new matter into the disclosure. Applicants respectfully traverse this objection and request withdrawal based on the following remarks.

Applicants original disclosure, page 6, fourth entry, discloses ACLAR<sup>®</sup> CTFE, Marketed by Honeywell, Inc. of Morristown, New Jersey. As shown in the accompanying MSDS sheets from Honeywell, Inc., the trademark ACLAR<sup>®</sup> is used for both Chlorotrifluoroethene homopolymers and Chlorotrifluoroethene 1,1-Difluoroethene copolymers. The revised entry in the table on page 6, fourth entry, correctly reflects the chemical formula for ACLAR<sup>®</sup>, the homopolymer, i.e., where m is 0, and ACLAR<sup>®</sup> the copolymer, i.e., where m is an integer.

Withdrawal of the objection to the specification is accordingly requested.

**III. The Rejection under Under 35 USC § 112.**

The Examiner has rejected Claims 13 and 14 under 35 USC § 112, first paragraph, for the reasons stated in numbered paragraph 4 of the Office Action. Applicants respectfully traverse this objection and request withdrawal based on the following remarks.

As detailed in section II, above, ACLAR<sup>®</sup> CTFE, originally described in the specification, on page 6, is either a Chlorotrifluoroethene homopolymer or a Chlorotrifluoroethene 1,1-Difluoroethene copolymer. Both the homopolymer and the copolymer are represented by the formula  $[-CF_2-CFCl-]_n[-CF_2-CH_2-]_m$ , as is known to those of skill in the art. The amendments to Claims 13 and 14 correct typographical errors, which inadvertently omitted the Chlorotrifluoroethene 1,1-Difluoroethene copolymer, which is originally described in the specification as ACLAR<sup>®</sup> CTFE, from the chemical formulation.

Withdrawal of the rejection under 35 USC § 112, first paragraph is accordingly requested.

**IV. The Rejection Under 35 USC § 102(e).**

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The Office has rejected Claims 1, 3-12, and 17 under 35 USC § 102(e) as being anticipated by Araki et al. (U.S. Patent No. 6,716,497) for the reasons stated in numbered paragraph 6 of the Office Action. Applicants respectfully traverse this rejection and request reconsideration based on the following remarks.

Claim 1 is limited to “a transparent adhesive layer disposed between the first layer and the second layer”. This limitation is incorporated from original Claim 2, now canceled. The Examiner has not asserted that any reference, including Araki, in this, or the previous Office Action, discloses this claimed feature. The Examiner states on page 7 of the Office Action that “[i]n view of the amendments to claim 1 incorporating the limitations of original claim 2 (and analogous amendment to claim 18) the rejections over Friedman et al. put forth in the prior Office action are withdrawn.” However, the prior Office Action did not reject claim 2 over Friedman, and did not explicitly cite to a portion of Araki which disclosed this claimed feature.

Further, Applicant is not aware of a portion of Araki which discloses “a transparent adhesive layer disposed between the first layer and the second layer”. Applicants request that the Examiner point to a portion of Araki which discloses this claimed feature or withdraw the rejection.

#### **V. The Rejections Under 35 USC § 103.**

##### **1. The Rejection Over Araki et al. in view of Friedman.**

The Office has rejected Claims 13-16 under 35 USC § 103(a) as being unpatentable over Araki et al. (US Patent 6,716,497) in view of Friedman et al. (U.S. 2003/0162028) for the reasons stated in numbered paragraph 7 of the Office Action. Applicants respectfully traverse this rejection and request reconsideration based on the following remarks.

As described above, Araki et al. does not disclose all the limitations of Applicant's claimed invention, namely, “a transparent adhesive layer disposed between the first layer and the second layer”, an element of claim 1, from which claims 13-16 depend. Friedman et al. does not remedy the deficiencies of Araki. Friedman does not disclose two polymer sheets, one sheet being a fluorocarbon polymer sheet, that are bonded by a transparent adhesive layer as claimed by Applicants.

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In addition, Friedman et al. teaches layers that are adhered without the benefit of adhesive. See., e.g., [Par. 0001]. Accordingly, there is no motivation to modify or combine Araki et al. with Friedman et al. to arrive at Applicants invention.

Accordingly, Applicants submit that all pending claims are patentable over Araki et al. in view of Friedman et al. and request withdrawal of this basis for rejection.

**B. The Rejection Over Delnay et al. in view of Araki et al.**

The Office has rejected Claims 18-23 under 35 USC § 103(a) as being unpatentable over Delnay et al. (U.S. Patent 3,410,619) in view of Araki et al. (U.S. Patent 6,716,397) for the reasons stated in numbered paragraph 8 of the Office Action. Applicants respectfully traverse this basis for rejection and request reconsideration based on the following remarks.

As described above, Araki et al. does not disclose all the limitations of Applicant's claimed invention, namely, "a transparent adhesive layer disposed between the first layer and the second layer", an element of claim 18, and claims 19-23 depending from claim 18. Delnay et al. does not remedy the deficiencies of Araki et al. as Delnay et al. also does not teach this limitation.

Further, as stated by the Office, the glovebox disclosed in Delnay et al. comprises "windows made from any high strength transparent, *chemically inert material*, such as safety glass". (Office Action, page 5, emphasis added). Applicants claim a transparent window comprising a "substrate polymer material" for the first layer of the claimed window, bonded to a "transparent fluorocarbon polymer sheet" as a second layer by a transparent adhesive. There is no motivation to modify or combine the window described in Delnay et al., made of a chemically inert material, and bond it to a fluorocarbon polymer sheet as claimed by Applicants. The combination would serve no purpose or have any advantage, as the window disclosed in Delnay et al. is already comprised of a chemically inert material.

Finally, Araki et al. teaches that a hydrocarbon type (non-fluorine containing) adhesive does not have enough adhesive property and is insufficient in heat resistance, chemical resistance and water resistance of its adhesive layer, it cannot maintain adhesive force due to a change in temperature and environment, and lacks in reliability. See, e.g, col. 3, lines 1-14. Araki et al.

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then teaches away from Applicant's claimed composite, which requires two polymers bonded by an adhesive, by describing adhering two polymers by graft polymerizing a fluorine-containing polymer to a hydrocarbon monomer having a functional group. This is in contrast to Applicant's claimed invention, which secures two polymer substrates with an adhesive. Accordingly, there is no motivation to modify or combine the invention disclosed in Delnay et al. and/or Araki et al. to arrive at Applicants invention.

Accordingly, Applicants submit that all pending claims are patentable over Delnay et al. in view of Araki et al. and request withdrawal of this basis for rejection.

### CONCLUSION

The Applicant believes that all pending claims are in condition for allowance and such action is earnestly requested. If the present amendments and remarks do not place the Application in condition for allowance, the Examiner is encouraged to contact the undersigned directly if there are any issues that can be resolved by telephone with the Applicants representative.

No fee is believed due by this Response. However, if any fees are due, the Commissioner is authorized to charge any such fees to deposit account No. 19-2090.

Respectfully Submitted,  
SHELDON & MAK PC

Date: February 21, 2006

By: 

Kristin C. Hiibner, Ph.D.  
Reg. No. 50,139

SHELDON & MAK PC  
225 South Lake Avenue, 9th Floor  
Pasadena, California 91101-3005

Telephone (626) 796-4000  
Facsimile (626) 795-6321

**Honeywell**

# Material Safety Data Sheet

## 1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

**PRODUCT NAME:** ACLAR® Homopolymer Films**OTHER/GENERIC NAMES:** Polychlorotrifluoroethylene  
Chlorotrifluoroethene Homopolymer  
ACLAR® 11A, 11C, Rx 160, Rx 20e, SupRx 900, UltRx 2000, UltRx 3000,  
UltRx 4000**PRODUCT USE:** Plastic film.**MANUFACTURER:** Honeywell Inc.  
101 Columbia Road  
P.O. Box 1053  
Morristown, New Jersey 07962-1053**FOR MORE INFORMATION CALL:**  
(Monday-Friday, 8:00am-5:00pm)  
1-800-707-4555**IN CASE OF EMERGENCY CALL:**  
(24 Hours/Day, 7 Days/Week)  
1-800-707-4555 (Honeywell - Domestic)  
602-365-4980 (Honeywell - International)  
**FOR TRANSPORTATION EMERGENCIES:**  
1-800-424-9300 (CHEMTREC - Domestic)  
703-527-3887 (CHEMTREC - International)

## 2. COMPOSITION/INFORMATION ON INGREDIENTS

<u>INGREDIENT NAME</u>	<u>CAS NUMBER</u>	<u>WEIGHT %</u>
Chlorotrifluoroethene Homopolymer	9002-83-9	99-100

Trace impurities and additional material names not listed above may also appear in Section 15 towards the end of the MSDS. These materials may be listed for local "Right-To-Know" compliance and for other reasons.

While this material is not considered as hazardous under OSHA regulations, the MSDS contains valuable information critical to the safe handling and proper use of the product. This MSDS should be retained and available for employees and other users of this product.

## 3. HAZARDS IDENTIFICATION

**EMERGENCY OVERVIEW:** A clear plastic film. Not considered hazardous under normal usage. Can release irritating and/or toxic vapors at elevated processing temperatures or if involved in a fire.

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## **MATERIAL SAFETY DATA SHEET**

### **ACLAR® Homopolymer Films**

#### **POTENTIAL HEALTH HAZARDS**

**SKIN:** Not considered hazardous.

**EYES:** Not considered hazardous. May cause mechanical irritation if film comes into contact with the eye.

**INHALATION:** Not a route of exposure under normal usage. Elevated processing temperatures may release irritating vapors

**INGESTION:** Not a route of exposure. Not considered hazardous.

**DELAYED EFFECTS:** None known.

Ingredients found on one of the OSHA designated carcinogen lists are listed below.

#### **INGREDIENT NAME**

#### **NTP STATUS**

#### **IARC STATUS**

#### **OSHA LIST**

No ingredients listed in this section.

#### **4. FIRST AID MEASURES**

**SKIN:** None needed.

**EYES:** None needed under normal usage. If material comes into contact with the eye, flush eyes with water while holding eyelids apart to ensure complete irrigation.

**INHALATION:** None needed under normal usage. If exposed to vapors at elevated processing temperatures, remove to fresh air.

**INGESTION:** None needed.

**ADVICE TO PHYSICIAN:** None.

#### **5. FIRE FIGHTING MEASURES**

##### **FLAMMABLE PROPERTIES**

**FLASH POINT:** Not applicable.

**FLASH POINT METHOD:** Not applicable.

**AUTOIGNITION TEMPERATURE:** Not determined.

**UPPER FLAME LIMIT (volume % in air):** Not applicable. Non-volatile solid.

**LOWER FLAME LIMIT (volume % in air):** Not applicable. Non-volatile solid.

**FLAME PROPAGATION RATE (solids):** Not determined.

**OSHA FLAMMABILITY CLASS:** Not determined.

##### **EXTINGUISHING MEDIA:**

Carbon dioxide, dry chemical foam, water or other agents as appropriate for materials in surrounding fire.

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**MATERIAL SAFETY DATA SHEET****ACLAR® Homopolymer Films**

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**UNUSUAL FIRE AND EXPLOSION HAZARDS:**

Gaseous products may be evolved if the film is heated to very high temperatures and they should be regarded as hazardous.

**SPECIAL FIRE FIGHTING PRECAUTIONS/INSTRUCTIONS:**

Wear NIOSH/MSHA approved positive pressure self-contained breathing apparatus and full protective clothing.

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**6. ACCIDENTAL RELEASE MEASURES**

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**IN CASE OF SPILL OR OTHER RELEASE:** (Always wear recommended personal protective equipment.)  
Collect and place in a solid waste container.

Spills and releases may have to be reported to Federal and/or local authorities. See Section 15 regarding reporting requirements.

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**7. HANDLING AND STORAGE**

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**NORMAL HANDLING:**

(Always wear recommended personal protective equipment.)

Use normal personal hygiene and good housekeeping. If intended for food or pharmaceutical packaging applications, the product should be handled according to applicable Good Manufacturing Practices.

**STORAGE RECOMMENDATIONS:**

Store in a cool, dry area, away from direct heat or sunlight. If intended for food or pharmaceutical packaging applications, keep away from pesticides, PCBs and other hazardous chemicals.

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**8. EXPOSURE CONTROLS/PERSONAL PROTECTION**

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**ENGINEERING CONTROLS:**

General room ventilation is adequate for vacuum forming operations where the film is not heated above 375 °F (190 °C). In heatsealing and other operations which heat the film to temperatures of 555 °F (290 °C) or higher, local exhaust ventilation should be used at points of fume generation to maintain exposure below the PEL/TLV exposure limits.

**PERSONAL PROTECTIVE EQUIPMENT****SKIN PROTECTION:**

Not normally required. Use heat resistant gloves if handling melted material.

**EYE PROTECTION:**

As a general practice in manufacturing areas, safety glasses that conform to ANSI Z87.1 should be worn.

**RESPIRATORY PROTECTION:**

Under normal usage, not normally required. A NIOSH/MSHA approved respirator should be worn in areas where the PEL/TLV is exceeded.

**ADDITIONAL RECOMMENDATIONS:**

None.

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## **MATERIAL SAFETY DATA SHEET**

### **ACLAR® Homopolymer Films**

#### **EXPOSURE GUIDELINES**

**INGREDIENT NAME****ACGIH TLV****OSHA PEL****OTHER LIMIT**

No ingredients listed in this section.

- \* = Limit established by Honeywell for internal use.  
\*\* = Workplace Environmental Exposure Level (AIHA).  
\*\*\* = Biological Exposure Index (ACGIH).

PEL values represent limits established by the 1989 Air Contaminants Rule (29 CFR 1910.1000, Subpart Z, Table Z-1-A) which was subsequently revoked on June 30, 1993. Several states continue to enforce Table Z-1-A limits.

#### **OTHER EXPOSURE LIMITS FOR POTENTIAL DECOMPOSITION PRODUCTS:**

**NAME****ACGIH TLV****OSHA PEL****OTHER LIMIT**

Hydrogen Chloride

Ceiling = 2 ppm

Ceiling = 5 ppm,  
7 mg/m<sup>3</sup>

N/A

Hydrogen Fluoride

Ceiling = 3 ppm as F

TWA = 3 ppm as F  
(8-hr day)  
STEL = 6 ppm as F  
(15-min exposure)

N/A

#### **9. PHYSICAL AND CHEMICAL PROPERTIES**

**APPEARANCE:** Clear plastic film.

**PHYSICAL STATE:** Solid.

**ODOR:** None.

**SPECIFIC GRAVITY (water = 1.0):** 2.11

**SOLUBILITY IN WATER (weight %):** Negligible.

**pH:** Not applicable.

**BOILING POINT:** Not applicable.

**MELTING POINT:** 412 °F (211 °C)

**VAPOR PRESSURE:** Negligible at room temperature.

**VAPOR DENSITY (air = 1.0):** Not determined.

**EVAPORATION RATE:** Not determined.

**COMPARED TO:** Not applicable.

**% VOLATILES:** Negligible.

**FLASH POINT:** Not applicable.

(Flash point method and additional flammability data are found in Section 5.)

#### **10. STABILITY AND REACTIVITY**

##### **NORMALLY STABLE? (CONDITIONS TO AVOID)**

Normally stable. Avoid exposure to open flame or temperatures exceeding recommended processing temperatures. The maximum temperature to which the film can be exposed will vary with exposure (dwell) time. Honeywell should be contacted if questions arise concerning specific processing conditions.

##### **INCOMPATIBILITIES:**

Alkali metal complexes and organic amines. Highly chlorinated-fluorinated solvents, nitrogen tetroxide and chlorine gas tend to plasticize the film. Silicones tend to induce stress cracking.

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**MATERIAL SAFETY DATA SHEET****ACLAR® Homopolymer Films****HAZARDOUS DECOMPOSITION PRODUCTS:**

Thermal decomposition products may include hydrogen chloride, hydrogen fluoride, carbon monoxide, carbon dioxide and combustion by-products (oxidized and non-oxidized hydrocarbons).

**HAZARDOUS POLYMERIZATION:**

Will not occur.

**11. TOXICOLOGICAL INFORMATION****IMMEDIATE (ACUTE) EFFECTS:**

Not determined.

**DELAYED (SUBCHRONIC AND CHRONIC) EFFECTS:**

None known.

**OTHER DATA:**

None.

**12. ECOLOGICAL INFORMATION**

Material is considered inert and not expected to be biodegradable or toxic.

**13. DISPOSAL CONSIDERATIONS****RCRA**

Is the unused product a RCRA hazardous waste if discarded? No.

If yes, the RCRA ID number is: Not applicable.

**OTHER DISPOSAL CONSIDERATIONS:**

Dispose of in compliance with Federal, state and local government regulations. Usually considered an inert packaging material that can be recycled or landfilled. Incineration is not a preferred disposal method because of the possible formation of hydrogen chloride and hydrogen fluoride.

The information offered here is for the product as shipped. Use and/or alterations to the product such as mixing with other materials may significantly change the characteristics of the material and alter the RCRA classification and the proper disposal method.

**14. TRANSPORT INFORMATION**

**US DOT HAZARD CLASS:** Not regulated.

**US DOT ID NUMBER:** Not applicable.

For additional information on shipping regulations affecting this material, contact the information number found on Section 1.

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**MATERIAL SAFETY DATA SHEET****ACLAR® Homopolymer Films****15. REGULATORY INFORMATION****TOXIC SUBSTANCES CONTROL ACT (TSCA)**

**TSCA INVENTORY STATUS:** Listed on the TSCA Inventory.

**OTHER TSCA ISSUES:** None.

**SARA TITLE III/CERCLA**

"Reportable Quantities" (RQs) and/or "Threshold Planning Quantities" (TPQs) exist for the following ingredients.

**INGREDIENT NAME****SARA/CERCLA RQ (lb)****SARA EHS TPQ (lb)**

No ingredients listed in this section.

Spills or releases resulting in the loss of any ingredient at or above its RQ requires immediate notification to the National Response Center (1-800-424-8802) and to your Local Emergency Planning Committee.

**SECTION 311 HAZARD CLASS:** None.

The following ingredients are SARA 313 "Toxic Chemicals". CAS numbers and weight percents are found in Section 2.

**INGREDIENT NAME****COMMENT**

No ingredients listed in this section.

**STATE RIGHT-TO-KNOW**

In addition to the ingredients found in Section 2, the following are listed for state right-to-know purposes.

**INGREDIENT NAME****WEIGHT %** **COMMENT**

No ingredients listed in this section.

**ADDITIONAL REGULATORY INFORMATION****FOOD PACKAGING - UNITED STATES:**

ACLAR® films listed in Section 1 are acceptable for use in handling and packaging of food when used in accordance with U.S. Food and Drug Administration (FDA) regulation 21CFR 177.1380. The films are prepared from resins meeting all of the specifications and extraction requirements of 21CFR 177.1380 (a) (1) and (c) (1), (2) and (3).

**PHARMACEUTICAL PACKAGING - UNITED STATES:**

Drug Master File No. 1578 has been established with the U.S. Food and Drug Administration for ACLAR® films.

**FOOD PACKAGING - EUROPEAN UNION:**

The base monomer is included on the positive EU list (Section A, Annex II) of approved food contact monomers and other reactants as discussed in Directive 90/128/EEC, as amended. The

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**MATERIAL SAFETY DATA SHEET****ACLAR® Homopolymer Films**

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following limit contained in Directive 90/128/EEC apply to the ACLAR® films listed in Section 1: QMA (residual monomer limit) of 0.5 mg/6 dm<sup>2</sup> for chlorotrifluoroethylene.

**NON-FOOD OR PHARMACEUTICAL PACKAGING:**

The above information is provided only with respect to use in food and pharmaceutical packaging applications. If this product is intended for use in other FDA-regulated end uses, Honeywell should be contacted prior to use.

**WHMIS CLASSIFICATION (CANADA):**

Not a controlled substance. (Considered to be a manufactured article.)

**FOREIGN INVENTORY STATUS:**

The base monomer is listed on the EINECS Inventory.

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**16. OTHER INFORMATION**

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**CURRENT ISSUE DATE:** January, 2004

**PREVIOUS ISSUE DATE:** April, 2002

**CHANGES TO MSDS FROM PREVIOUS ISSUE DATE ARE DUE TO THE FOLLOWING:**

Addition of UltRx 4000 to product list (Section 1), addition of OSHA regulatory compliance statement (Section 2), change in ACGIH exposure limits for hydrogen chloride (Section 8).

**OTHER INFORMATION:** None.

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**Honeywell**

# Material Safety Data Sheet

## 1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

**PRODUCT NAME:** ACLAR® Copolymer Films

**OTHER/GENERIC NAMES:** Polychlorotrifluoroethylene  
Chlorotrifluoroethene 1,1-Difluoroethene Copolymer  
ACLAR® 22A, 22C, 33C, 88A

**PRODUCT USE:** Plastic film.

**MANUFACTURER:** Honeywell Inc.  
101 Columbia Road  
P.O. Box 1053  
Morristown, New Jersey 07962-1053

**FOR MORE INFORMATION CALL:**  
(Monday-Friday, 8:00am-5:00pm)  
1-800-707-4555

**IN CASE OF EMERGENCY CALL:**  
(24 Hours/Day, 7 Days/Week)  
1-800-707-4555 or Chemtrec 1-800-424-9300

## 2. COMPOSITION/INFORMATION ON INGREDIENTS

<u>INGREDIENT NAME</u>	<u>CAS NUMBER</u>	<u>WEIGHT %</u>
Chlorotrifluoroethene 1,1-Difluoroethene Copolymer	9010-75-7	99-100

Trace impurities and additional material names not listed above may also appear in Section 15 towards the end of the MSDS. These materials may be listed for local "Right-To-Know" compliance and for other reasons.

## 3. HAZARDS IDENTIFICATION

**EMERGENCY OVERVIEW:** A clear plastic film. Not considered hazardous under normal usage. Can release irritating and/or toxic vapors at elevated processing temperatures or if involved in a fire.

### POTENTIAL HEALTH HAZARDS

**SKIN:** Not considered hazardous.

**EYES:** Not considered hazardous. May cause mechanical irritation if film comes into contact with the eye.

**INHALATION:** Not a route of exposure under normal usage. Elevated processing temperatures may release irritating vapors

**INGESTION:** Not a route of exposure. Not considered hazardous.

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**MATERIAL SAFETY DATA SHEET****ACLAR® Copolymer Films**

**DELAYED EFFECTS:** None known.

Ingredients found on one of the OSHA designated carcinogen lists are listed below.

**INGREDIENT NAME****NTP STATUS****IARC STATUS****OSHA LIST**

No ingredients listed in this section.

**4. FIRST AID MEASURES**

**SKIN:** None needed.

**EYES:** None needed under normal usage. If material comes into contact with the eye, flush eyes with water while holding eyelids apart to ensure complete irrigation.

**INHALATION:** None needed under normal usage. If exposed to vapors at elevated processing temperatures, remove to fresh air.

**INGESTION:** None needed.

**ADVICE TO PHYSICIAN:** None.

**5. FIRE FIGHTING MEASURES****FLAMMABLE PROPERTIES**

**FLASH POINT:** Not applicable.

**FLASH POINT METHOD:** Not applicable.

**AUTOIGNITION TEMPERATURE:** Not determined.

**UPPER FLAME LIMIT (volume % in air):** Not applicable. Non-volatile solid.

**LOWER FLAME LIMIT (volume % in air):** Not applicable. Non-volatile solid.

**FLAME PROPAGATION RATE (solids):** Not determined.

**OSHA FLAMMABILITY CLASS:** Not determined.

**EXTINGUISHING MEDIA:**

Carbon dioxide, dry chemical foam, water or other agents as appropriate for materials in surrounding fire.

**UNUSUAL FIRE AND EXPLOSION HAZARDS:**

Gaseous products may be evolved if the film is heated to very high temperatures and they should be regarded as hazardous.

**SPECIAL FIRE FIGHTING PRECAUTIONS/INSTRUCTIONS:**

Wear NIOSH/MSHA approved positive pressure self-contained breathing apparatus and full protective clothing.

**6. ACCIDENTAL RELEASE MEASURES**

**IN CASE OF SPILL OR OTHER RELEASE:** (Always wear recommended personal protective equipment.)  
Collect and place in a solid waste container.

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**MATERIAL SAFETY DATA SHEET****ACLAR® Copolymer Films**

Spills and releases may have to be reported to Federal and/or local authorities. See Section 15 regarding reporting requirements.

**7. HANDLING AND STORAGE****NORMAL HANDLING:**

(Always wear recommended personal protective equipment.)

Use normal personal hygiene and good housekeeping. If intended for food or pharmaceutical packaging applications, the product should be handled according to applicable Good Manufacturing Practices.

**STORAGE RECOMMENDATIONS:**

Store in a cool, dry area, away from direct heat or sunlight. If intended for food or pharmaceutical packaging applications, keep away from pesticides, PCBs and other hazardous chemicals.

**8. EXPOSURE CONTROLS/PERSONAL PROTECTION****ENGINEERING CONTROLS:**

General room ventilation is adequate for vacuum forming operations where the film is not heated above 375 °F (190 °C). In heatsealing and other operations which heat the film to temperatures of 555 °F (290 °C) or higher, local exhaust ventilation should be used at points of fume generation to maintain exposure below the PEL/TLV exposure limits.

**PERSONAL PROTECTIVE EQUIPMENT****SKIN PROTECTION:**

Not normally required. Use heat resistant gloves if handling melted material.

**EYE PROTECTION:**

As a general practice in manufacturing areas, safety glasses that conform to ANSI Z87.1 should be worn.

**RESPIRATORY PROTECTION:**

Under normal usage, not normally required. A NIOSH/MSHA approved respirator should be worn in areas where the PEL/TLV is exceeded.

**ADDITIONAL RECOMMENDATIONS:**

None.

**EXPOSURE GUIDELINES****INGREDIENT NAME****ACGIH TLV****OSHA PEL****OTHER LIMIT**

No ingredients listed in this section.

\* = Limit established by Honeywell for internal use.

\*\* = Workplace Environmental Exposure Level (AIHA).

\*\*\* = Biological Exposure Index (ACGIH).

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**MATERIAL SAFETY DATA SHEET****ACLAR® Copolymer Films****OTHER EXPOSURE LIMITS FOR POTENTIAL DECOMPOSITION PRODUCTS:**

<u>NAME</u>	<u>ACGIH TLV</u>	<u>OSHA PEL</u>	<u>OTHER LIMIT</u>
Hydrogen Chloride	Ceiling = 5 ppm (7.5 mg/m <sup>3</sup> )	Ceiling = 5 ppm (7 mg/m <sup>3</sup> )	N/A
Hydrogen Fluoride	Ceiling = 3 ppm (2.6 mg/m <sup>3</sup> )	TWA = 3 ppm as F STEL = 6 ppm as F	N/A

**9. PHYSICAL AND CHEMICAL PROPERTIES**

**APPEARANCE:** Clear plastic film.

**PHYSICAL STATE:** Solid.

**ODOR:** None.

**SPECIFIC GRAVITY (water = 1.0):** 2.08-2.12

**SOLUBILITY IN WATER (weight %):** Negligible.

**pH:** Not applicable.

**BOILING POINT:** Not applicable.

**MELTING POINT:** 374-403 °F (190-206 °C)

**VAPOR PRESSURE:** Negligible at room temperature.

**VAPOR DENSITY (air = 1.0):** Not determined.

**EVAPORATION RATE:** Not determined.

**COMPARED TO:** Not applicable.

**% VOLATILES:** Negligible.

**FLASH POINT:** Not applicable.

(Flash point method and additional flammability data are found in Section 5.)

**10. STABILITY AND REACTIVITY****NORMALLY STABLE? (CONDITIONS TO AVOID)**

Normally stable. Avoid exposure to open flame or temperatures exceeding recommended processing temperatures. The maximum temperature to which the film can be exposed will vary with exposure (dwell) time. Honeywell should be contacted if questions arise concerning specific processing conditions.

**INCOMPATIBILITIES:**

Alkali metal complexes and organic amines. Highly chlorinated-fluorinated solvents, nitrogen tetroxide and chlorine gas tend to plasticize the film. Silicones tend to induce stress cracking.

**HAZARDOUS DECOMPOSITION PRODUCTS:**

Thermal decomposition products may include hydrogen chloride, hydrogen fluoride, carbon monoxide, carbon dioxide and combustion by-products (oxidized and non-oxidized hydrocarbons).

**HAZARDOUS POLYMERIZATION:**

Will not occur.

**11. TOXICOLOGICAL INFORMATION****IMMEDIATE (ACUTE) EFFECTS:**

Not determined.

**DELAYED (SUBCHRONIC AND CHRONIC) EFFECTS:**

None known.

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**MATERIAL SAFETY DATA SHEET**  
**ACLAR® Copolymer Films**

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**OTHER DATA:**

None.

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**12. ECOLOGICAL INFORMATION**

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Material is considered inert and not expected to be biodegradable or toxic.

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**13. DISPOSAL CONSIDERATIONS**

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**RCRA**

Is the unused product a RCRA hazardous waste if discarded? No.  
If yes, the RCRA ID number is: Not applicable.

**OTHER DISPOSAL CONSIDERATIONS:**

Dispose of in compliance with Federal, state and local government regulations. Usually considered an inert packaging material that can be recycled or landfilled. Incineration is not a preferred disposal method because of the possible formation of hydrogen chloride and hydrogen fluoride.

The information offered here is for the product as shipped. Use and/or alterations to the product such as mixing with other materials may significantly change the characteristics of the material and alter the RCRA classification and the proper disposal method.

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**14. TRANSPORT INFORMATION**

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**US DOT HAZARD CLASS:** Not regulated.**US DOT ID NUMBER:** Not applicable.

For additional information on shipping regulations affecting this material, contact the information number found on Section 1.

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**15. REGULATORY INFORMATION**

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**TOXIC SUBSTANCES CONTROL ACT (TSCA)****TSCA INVENTORY STATUS:** Listed on the TSCA Inventory.**OTHER TSCA ISSUES:** None.**SARA TITLE III/CERCLA**

"Reportable Quantities" (RQs) and/or "Threshold Planning Quantities" (TPQs) exist for the following ingredients.

**INGREDIENT NAME**

No ingredients listed in this section.

**SARA/CERCLA RQ (lb)****SARA EHS TPQ (lb)**

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**MATERIAL SAFETY DATA SHEET****ACLAR® Copolymer Films**

Spills resulting in the loss of any ingredient at or above its RQ requires immediate notification to the National Response Center (1-800-424-8802) and to your Local Emergency Planning Committee.

**SECTION 311 HAZARD CLASS:** None.

The following ingredients are SARA 313 "Toxic Chemicals". CAS numbers and weight percents are found in Section 2.

**INGREDIENT NAME****COMMENT**

No ingredients listed in this section.

**STATE RIGHT-TO-KNOW**

In addition to the ingredients found in Section 2, the following are listed for state right-to-know purposes.

**INGREDIENT NAME****WEIGHT % COMMENT**

No ingredients listed in this section.

**ADDITIONAL REGULATORY INFORMATION****FOOD PACKAGING - UNITED STATES:**

ACLAR® films listed in Section 1 are acceptable for use in handling and packaging of food when used in accordance with U.S. Food and Drug Administration (FDA) regulation 21CFR 177.1380. Films designated 22A, 22C and 88A are prepared from resins meeting all of the specifications and extraction requirements of 21CFR 177.1380 (a) (1) and (c) (1), and (2). Films designated 33C are prepared from resins meeting all of the specifications and extraction requirements of 21CFR 177.1380 (a) (1) and (c) (1), (2) and (3).

**PHARMACEUTICAL PACKAGING - UNITED STATES:**

Drug Master File No. 1578 has been established with the U.S. Food and Drug Administration for ACLAR® films.

**NON-FOOD OR PHARMACEUTICAL PACKAGING:**

The above information is provided only with respect to use in food and pharmaceutical packaging applications. If this product is intended for use in other FDA-regulated end uses, Honeywell should be contacted prior to use.

**WHMIS CLASSIFICATION (CANADA):**

Not a controlled substance. (Considered to be a manufactured article.)

**FOREIGN INVENTORY STATUS:**

The base monomers are listed on the EINECS Inventory.

**16. OTHER INFORMATION**

**CURRENT ISSUE DATE:** April, 2000

**PREVIOUS ISSUE DATE:** April, 1997

**CHANGES TO MSDS FROM PREVIOUS ISSUE DATE ARE DUE TO THE FOLLOWING:**

Change in company name and contact information (Section 1).

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**MATERIAL SAFETY DATA SHEET**

**ACLAR<sup>®</sup> Copolymer Films**

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**OTHER INFORMATION:** None.

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